

BENEDIKTOV, I.A.--- (continued) Card 2.
GREBEN', L.K., akademik, nauchnyy redaktor; NIKOLAYEV, A.I., professor,
doktor sel'skokhozyaystvennykh nauk, nauchnyy redaktor; RED'KIN, A.P.,
professor, doktor sel'skokhozyaystvennykh nauk, nauchnyy redaktor;
SMETNEV, S.I., professor, doktor sel'skokhozyaystvennykh nauk, nauch-
nyy redaktor; POPOV, I.S., professor, doktor sel'skokhozyaystvennykh
nauk, nauchnyy redaktor; MANTSEYFEL', P.A., professor nauchnyy redaktor;
NIKHOV, G.S., professor, doktor khimicheskikh nauk, nauchnyy redaktor;
ANFIMOV, A.N., professor, nauchnyy redaktor; GUBIN, A.F., professor,
doktor sel'skokhozyaystvennykh nauk, nauchnyy redaktor; POLTEV, V.I.,
professor, doktor veterinarnykh nauk, nauchnyy redaktor; LINDE, V.V.,
professor, doktor tekhnicheskikh nauk, nauchnyy redaktor; CHERGAS,
B.I., professor, doktor biologicheskikh nauk, nauchnyy redaktor;
NIKOL'SKIY, G.V., professor, nauchnyy redaktor; AVTOKRATOV, D.M.,
professor, doktor veterinarnykh nauk, nauchnyy redaktor; IVANOV, S.V.,
professor, doktor biologicheskikh nauk, nauchnyy redaktor; VIKTOROV,
K.P., professor, doktor veterinarnykh nauk, nauchnyy redaktor;
KOLYAKOV, Ya.Ye., professor, doktor veterinarnykh nauk, nauchnyy re-
daktor; ANTIFIN, D.N., professor, doktor veterinarnykh nauk, nauchnyy
redaktp; MARKOV, A.A., professor, doktor veterinarnykh nauk, nauchnyy
redaktor; DOMRACHEV, G.V., professor, doktor veterinarnykh nauk,
nauchnyy redaktor [deceased]; FLEGMATOV, N.A., professor, doktor ve-
ternarnykh nauk, nauchnyy redaktor; BOLTINSKIY, V.N., professor,
doktor tekhnicheskikh nauk, nauchnyy redaktor; VIL'YAMS, Vl.P., profes-
sor, doktor tekhnicheskikh nauk, nauchnyy redaktor; KRASNOV, V.S.,
kandidat tekhnicheskikh nauk, nauchnyy redaktor;

(Continued on next card)

BENEDIKTOV, I.A.---(continued) Card 3.

YEVESEINOV, M.G., akademik, nauchnyy redaktor; SAZONOV, N.A., doktor tekhnicheskikh nauk, nauchnyy redaktor; NIKANDROV, B.I., inzhener, nauchnyy redaktor; KOSTYAKOV, A.N., akademik, nauchnyy redaktor; CHERKASOV, A.A., professor, doktor tekhnicheskikh nauk, nauchnyy redaktor; DAVITAYA, F.F., doktor sel'skokhozyaystvennykh nauk, nauchnyy redaktor; IVANOV, N.N., professor, doktor tekhnicheskikh nauk, nauchnyy redaktor; ORLOV, P.M., professor, doktor tekhnicheskikh nauk, nauchnyy redaktor; LOZA, G.M., kandidat ekonomicheskikh nauk, nauchnyy redaktor; CHERNOV, A.V., kontrol'nyy redaktor; ZAVARSKIY, A.I., redaktor; ROS-SOSHANSKAYA, V.A., redaktor; FILATOVA, N.I., redaktor; YEMEL'YANOVA, N.I., redaktor; SILIN, V.S., redaktor BRANZBURG, A.Yu., redaktor; MAGNITSKIY, A.V., redaktor terminov; KUDRYAVTSEVA, A.G., redaktor terminov; AKSENOVA, A.P., mladshiy redaktor; MALYAVSKAYA, O.A., mladshiy redaktor; PEDOTOVA, A.F., tekhnicheskiy redaktor

(Continued on next card)

BENEDIKTOV, I.A.---(continued) Card 4.

[Agricultural encyclopedia] Sel'skokhoziaistvennaja entsiklopedija.
Izd.3-e, perer. Moskva, Gos. izd-vo selkhoz. lit-ry. Vol.5. [T-IA.]
1956. 663 p. (MLRA 9:9)
(Agriculture—Dictionaries and encyclopedias)

DEMEEZER, A.A.; DZYUBA, M.L.; YUROVITSKIY, Ye.I.; GERASIMOV, P.K., redaktor;
KARAVAYEV, A.A., redaktor; PEROV, S.V., redaktor; SAVEL'YEV, B.V.,
redaktor; YAKUSHKIN, I.V., redaktor; VENKOVA, Ye.I., tekhnicheskiy
redaktor

[Collective farmer's almanac for 1957] Kalendar' kolkhoznika na
1957 god. Moskva, Gos. izd-vo selkhoz. lit-ry [1956] 175 p.
(Almanacs) (Agriculture) (MIRA 9:12)

YAKUSHKIN, I.V., akademik, red.; CHMOR, N.Ya., kand. sel'skokhozyaystvennykh nauk, red.; SERGEEV, V.I., red.; ZUBRILINA, Z.P., tekhn. red.

[Potatoes] Kartofel'. Izd.5. Moskva, Gos. izd-vo sel'kоз. lit-ry, 1956. 278 p. (Trehletnie kolkhoznye agrozootekhnicheskie kurсы. 2.g. obucheniiia) [Bibliotekha po ovoshchevodstvu, 7]. (MIRA 11:9) (Potatoes)

YAKUSHKIN, I.V., akademik, redaktor; MARINICH, P.Ye., agronom, redaktor;
CHERNOV, A.V., redaktor; PEVZNER, V.I., tekhnicheskiy redaktor

[Grain and pulse crops] Zernovye i zernobobovye kul'tury. Izd. 4-e,
perer. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 351 p. (MIRA 10:1)
(Field crops)

PONOMARCHUK, M.K., agronom; YAKUSHKIN, I.V., akademik, otvetstvennyy
redaktor; BARANOV, M.F., redaktor; YEDOTOVA, A.F., tekhnicheskiy
redaktor; BALLOD, A.I., tekhnicheskiy redaktor

[Plant growing at the All-Union Agricultural Exhibition of 1956]
Rastenievodstvo na Vsesoiuznoi sel'skokhoziaistvennoi vystavke
1956 goda; putesvoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry
[1956] 512 p. (MLRA 10:1)

1. Moscow. Vsesoyuznaya sel'skokhoziaistvennaya vystavka, 1954-
(Moscow--Field crops--Exhibitions)

USSR/Cultivated Plants - Grains.

M.

I.V. YAKUSHKIN

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15547

Author : I.V. Yakushkin

Inst :

Title : Ways of Increasing the Corn Yield
(Puti povysheniya urozhayev kukuruzy).

Orig Pub : Izv. Timiryazevskoy s.-kh. akad., 1956, No 1, 15-24.

Abstract : The scientific research and production work with corn in the USSR is generalized (chiefly according to the data of 1954-1955).

Card 1/1

39

YAKUSHKIN, I.V., akademik.

For 11 billion poods of grain. Zemledelie 4 no.5:3-9 My '56.
(MIRA 9:8)

(Grain)

YAKUSHKIN, I.V., akademik.

On a Kuban collective farm. Hauka i pered.op. v sel'khoz. 6 no.12:48-
49 D '56. (MLRA 10:1)

(Kuban--Collective farms)

YAKUSHKIN, I.V., akademik, redaktor; VARUNTSYAN, I.S., akademik, redaktor;
KARPEMKO, M.E., redaktor; SOKOLOVA, N.N., tekhnicheskij redaktor;
ZUBNIKOV, Z.P., tekhnicheskij redaktor

[Breeding sugar beets for high sugar content; proceedings of the plenum of the industrial crops section of All-Union Academy of Agricultural Sciences] Selektsiia sakharnoi svakly na povyshenie sakharistoosti; trudy plenuma sektsiii tekhnicheskikh kul'tur, 23-25 noisbria 1957 g. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 277 p.
(MLR 10:10)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina. Sektsiya tekhnicheskikh kul'tur.
(Sugar beet breeding)

YAKUSHKIN Ivan Vyacheslavovich

ALISOV, M.S.; YAKUSHKIN, Ivan Vyacheslavovich, redaktor

[Cropping strips are an important means of increasing crop yields]
Kulismye polosy - vashnoe sredstvo povysheniia urozhainosti, Moskva,
Ministerstvo sovkhozov SSSR, 1957. 83 p. (MIRA 10:9)
(Snow)

YAKUSHKIN, I.V.

DEMEN'ER, A.A.; DZYUBA, M.L.; YUROVITSKIY, Ye.I.; GERASIMOV, P.K., red.;
KARAVAYEV, A.A., red.; PEROV, S.V., red.; SAVEL'YEV, B.V., red.;
YAKUSHKIN, I.V., red.; VESKOVA, Ye.I., tekhn.red.; PEYZHER, V.I.,
tekhn.red.

[Yearbook for the collective farm worker for 1958] Kalendar'
kolkhoznika na 1958 god. Moskva, Gos. izd-vo sel'sel'khoz. lit-ry,
[1957] 175 p.
(Agriculture--Yearbooks)

Yakushkin, I.V.

YAKUSHKIN, I.V., akademik, red.; KAPLAN, G.D., red.; PEDOT(OVA, A.P., tekhn.
red.

[Fiber flax] Len-dolgunets. Izd. 4-e. Moskva, Gos.izd-vo sel'khoz.
lit-ry, 1957. 206 p.
(Flax)

YAKUSHKIN, I.V.

YAKUSHKIN, I.V., akademik.

Prospects of growing sorghum in the U.S.S.R. Zemledelie 5 no.10:
20-22 O '57. (MIRA 10:11)
(Sorghum)

LOBANOV, P.; BREZHNEV, D.; OL'SHANSKIY, M.; LYSENKO, T.; LISAVENKO, M.;
SINYAGIN, I.; YAKUSHKIN, I.; PREZENT, I.; VARUNTSYAN, I.; KOLESNIKOV,
V.; YEVYUSHENKO, A.; ZASYADNIKOV, T.; ALISOV, M.; UTEKHIN, A.;
GORSHKOV, I.; KELOKHOROV, I.; VIDENIN, K.; KARPOV, G.; CHERNENKO, S.;
BAKHAREV, A.; TIKHONOVA, A.; KUZ'MIN, A.; BUZULIN, G.; TOLMACHEV, I.;
LYSYUK, Ye.; KHARITONOVA, Ye.; KUSHNIRENKO, M.; NOVOPAVLOVSKAYA, N.;
ZHIRONKIN, I.; KATSURA, O.; KIRYUKHIN, I.; NIKITIN, B.; TSVETAYEVA, Z.;
ARKHIPOV, B.; OSTAPENKO, V.; IVANOV, V.; BUTUZOV, V.; LUTKOVA, I.;
TSVETAYEVA, Z.; ARKHIPOV, B.; OSTAPENKO, V.; IVANOV, V.; BUTUZOV, V.;
LUTKOVA, I.

P.N. IAkovlev; obituary. Agrobiologija no.6:119 N-D '57.
(MIRA 10:12)
(IAkovlev, Pavel Nikanorovich, 1898-1957)

YAKUSHKIN, I.V.

USSR / Cultivated Plants. Plants for Technical Use,
Oil Plants. Sugar Plants.

Abs Jour : Rof Zhur - Biol., No 8, 1958, No 34750
Authors : Yakushkin, I.V.; Orlov, V.T.
Inst : Not given
Title : Concerning the Flax Variety L-1120.
Orig Pub : Lyen i konoplyu, 1957, No 7, 17-19

Abstract : Variety L-1120 was developed by the Experimental Station of Smolensk by means of hybridization and controlled growth. It was allocated to 10 percent of the total area for flax cultivation. This variety yields high crops of fiber and seeds, and has high resistance to bending, while its drawbacks appear to reside primarily in the unsatisfactory spinning capacity of the fibers. By raising the sowing norm (up to 50 million seeds per one hectare), by earlier harvesting, and by spreading and maceration of the chaff

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USSR / Cultivated Plants. Plants for Technical Use.
Oil Plants. Sugar Plants.

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Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34750

immediately after the combing of the bolls, a significant improvement in the spinning qualities of the variety can be obtained. -- Smirnov.

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M

Country : USSR
Category: Cultivated Plants. Grains.'

Abs Jour: RZhBiol., No 11, 1958, No 48912

Author : Yakushkin, I.V.

Inst :

Title : On the Prospects of Sorghum Culture in USSR

Orig Pub: Zemledelniye, 1957, No 10, 20-22

Abstract: Sorghum is distinguished by high resistance to the air and soil dryness, and by tolerance to saline soils. It is a valuable feed culture when grown for grain, ensilage and green feed. Sorghum produces high yields in arid regions. In 1955 the sowings of grain sorghum occupied 57 thousand hectares in USSR, and 73.5 thousand hectares in 1956. According to the author's calculations, the sorghum area in

Card : 1/2

M-46

Country : USSR
Category: Cultivated Plants. Grains.

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Abs Jour: FZBiol., № 11, 1958, № 48912

USSR can be brought to 1.5-2 million hectares. Sorghum should become one of the principal grain-forage cultures in those regions of the country where the annual precipitation is 200-300 mm (the greater part of Kazakhstan, the steppe south of Ukraine, the arid regions of Northern Caucasus). Sorghum lends itself well to mechanization. Square-pocket sowing should be the principal method. The article examines briefly the chief problems of the agrotechniques for sorghum. -- N.N. Kuleshov

Card : 2/2

COUNTRY : USSR M
CATEGORY : Cultivated Plants, Grains.
ABS. JOUR. : RZBiol., No.21, 1958, No. 95899
AUTHOR : Yakushkin, I.V.; Chernomaz, P.A.
INST. : Not given
TITLE : Prospective Methods of Planting Grain Crops.

ORIG. PUB. : Zemledeliye, 1957, No.12, 74-78

ABSTRACT : The most rational method of placing grain crops (rye, wheat, oats and barley) is a method which provides uniform distribution of the seeds in an area supporting a somewhat increased seeding rate. For this purpose a planter /drill for rowless sowing/ must be built; if there is no such drill, it will be necessary to utilize cross and tight row sowing as much as possible. Studies on pocket and checkrow pocket planting of these

CARD: 1/2

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YAKUSHKIN, Ivan Vyacheslavovich, red.;

[Cultivation of field crops] Agrotekhnika polevykh kul'tur.
4., perer. izd. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959.
356 p.

(MIRA 15:12)

(Field crops)

<YAKUSHKIN, I.V.

Origin of salt structures of the Pripyat Graben. Dokl. AN BSSR 4 no. 10:
432-434 '60. (MIRA 13:9)

1. Glavnoye upravleniye geologif i okhrany nedr pri Sovete Ministrov
BSSR. Predstavлено академиком АН БССР.
(Pripyat Valley--Salt deposits)

YAKUSHKIN, I. V.

Facies and basic features of the Devonian paleogeography of the
Pripyat Depression. Vestsi AN BSSR. Ser. fiz.-tekhn. nav. no. 3:104-
114 '61. (MIRA 14:10)
(Pripyat Valley--Geology, Stratigraphic--Devonian)

YAKUSHKIN, I.V.

Tectonic structure of the Pripyat fault. Sov.geol. 5
no.6:43-51 Je '62. (MIRA 15:11)

1. Glavnaya upravleniya geologii i okhrany nedr pri
Sovete Ministrov Belorusskoy SSR.
(Pripyat Valley—Geology, Structural)

5.3610
5.3400(B)
5(3),5(4)

AUTHOR:

Yakushkin, M.I.

TITLE:

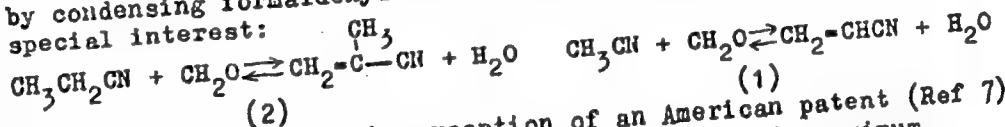
Thermodynamic Principles for the Production of Acrylonitrile
and Its Homologs by Condensation of Formaldehyde With Low
Aliphatic Nitriles

PERIODICAL:

Khimicheskaya promyshlennost¹, 1959, Nr 7, pp 575-577 (USSR)

ABSTRACT:

A great disadvantage of industrial processes used at present for the production of acrylonitrile (Refs 1-6) is the use of poisonous metal cyanides and hydrocyanic acid. In this respect the new method of producing acrylonitrile and its homologs, by condensing formaldehyde with low aliphatic nitriles, is of special interest:



(2)

These reactions, with the exception of an American patent (Ref 7), are not described in publications. In order to gain maximum yields and find out the optimum temperature conditions for carrying out these processes, the author made thermodynamic calculations for the reaction according to equation (1), i.e. ✓

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Thermodynamic Principles for the Production of
Acrylonitrile and Its Homologs by Condensation
of Formaldehyde With Low Aliphatic Nitriles

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B005/B123

for the case, that the reaction occurs entirely in the gas phase. The calculations are given in the paper. Table 1 shows the thermodynamic data for the various components taken from publications (Refs 8-14): Combustion heat, heat capacity C_p depending on the temperature, standard entropy. For the relation between equilibrium constant K_p of the reaction and temperature the author obtained the following function:

$$\log K_p = \frac{1229}{T} + 1.433 \log T - 0.012 \cdot 10^{-3} T - 0.094 \cdot 10^{-6} T^2 - 3.798$$

Table 2 shows values of equilibrium constants that were calculated for various temperatures (300-1000°K) according to this equation. The same table shows the corresponding equilibrium composition of the gas phase and the corresponding exchange x (in per cents). The exchange was computed from equation:

$$x = \frac{K_p - \sqrt{K_p}}{K_p - 1} \cdot 100. \text{ Investigations showed that it is thermo-}$$

dynamically possible to condense formaldehyde with acetonitrile. At 400°K x amounts to ~97% and declines only a little when the

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Thermodynamic Principles for the Production of
Acrylonitrile and Its Homologs by Condensation
of Formaldehyde With Low Aliphatic Nitriles

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B005/B123

temperature is raised. In order to obtain the maximum transformation of acetonitrile to acrylonitrile, the reaction has to be carried out at low temperatures. The optimum temperature range lies, however, between 300-370°C, as at lower temperatures the reaction rate is very low. These results also hold for the condensation of formaldehyde with propionitrile according to equation (2). For the practical evaluation of these reactions for the production of acrylonitrile from raw materials of the petroleum industry the author suggests the following two schemes: 1) ethylene $\xrightarrow{\text{NH}_3}$ acetonitrile $\xrightarrow{\text{CH}_2\text{O}}$ acrylonitrile; 2) low paraffin hydrocarbons $\xrightarrow{\text{O}_2}$ ethanol, acetaldehyde, acetic acid, etc. $\xrightarrow{\text{NH}_3}$ acetonitrile $\xrightarrow{\text{CH}_2\text{O}}$ acrylonitrile. Similar schemes can also be worked out for the production of methacrylic acid nitrile. There are 2 tables and 15 references, 5 of which are Soviet.

ASSOCIATION: VNIIneftekhim (All-Union Scientific Research Institute of
Card 3/3 Petroleum Chemistry)

S/065/60/000/008/001/007
E030/E412

AUTHOR: Yakushkin, M.I.

TITLE: Preparation of n-Aliphatic Amines by Hydrogenation of
Nitriles

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No.8, pp.6-8

TEXT: Studies have been made on the preparation of C₈ - C₁₃ aliphatic amines and hexylamine by the hydrogenation of the corresponding nitriles over a nickel catalyst. The nitriles were prepared by reacting fatty acids with ammonia and the fatty acids were obtained as the C₈ - C₁₃ fraction from the Shebekina works and as caproic acid, respectively. The effects of varying temperature, pressure and adding ammonia, or ammonia plus ethyl alcohol, were studied. In preparing the nitriles, the fatty acids were reacted with four times their molar concentration of ammonia at 330 to 350°C over an alumina catalyst, at a space velocity of 0.5 v/v/hr. For the C₈ - C₁₃ fraction, the 70 to 154°C boiling fraction contained 8.3% nitrogen and for caproic acid the product contained 14.3% nitrogen with 83% of the theoretical yield. Hydrogenation was carried out in a stainless steel autoclave with a 2800 r.p.m. rotary mixer. For the C₈ - C₁₃ product, the time for Card 1/2

S/065/60/000/008/001/007
E030/E412

Preparation of n-Aliphatic Amines by Hydrogenation of Nitriles
the reaction decreased when the pressure was raised from 20 to
60 atm, but the production of secondary and tertiary amines
increased as the temperature was allowed to rise towards 200°C.
The optimum temperature range was 150 to 170°C. For hexylamine,
hydrogenation was at 170°C and 50 atm and the 130 to 134°C boiling
fraction contained 13.86% nitrogen. However, hydrogenation at
30 atm partial pressure of hydrogen plus 20 atm partial pressure of
ammonia increased the yield of primary amines from 70.3% wt to
89.0% wt, and addition of 10% absolute alcohol over and above
increased it to 93.5%, presumably by retaining more ammonia in the
liquid phase. There are 2 tables and 10 Soviet references.

ASSOCIATION: VNIINeftekhim

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Z/011/61/018/002/003/013
E112/E153

AUTHOR: Yakushkin, M. I.

TITLE: Preparation of normal aliphatic amines by hydrogenation of nitriles

PERIODICAL: Chemie a chemická technologie. Průhled technické a hospodářské literatury. Vol.18, No.2, 1961, page 75.
Abstract Ch 61-1026 (Khim. Tekhnol. Topliva, 1960, VIII, Vol.5, No.8, pp.6-8).

TEXT: Nitriles C₈-C₁₃ are hydrogenated over Raney nickel at 120-200 °C and 20-60 atm pressure. Higher temperatures decrease the yields of primary amines. Yields of n-hexylamine from capronitrile were improved in the presence of ammonia and ethanol.

2 tables, 10 lit.references.

[Abstractor's note: This is a complete translation.]

Card 1/1

VVEDENSKIY, A.A.; YAKUSHKIN, M.I.; GULYAKOVA, T.N.; KIRYAKINA, N.T.

Ammonolysis of caproic and caprylic acids to nitriles. Khim.prom,
no.1:11-14 Ja '62. (MIRA 15:1)
(Hexanoic acid) (Heptanoic acid) (Nitriles)

YAKUSHKIN, M.I.; BOCHKova, V.P.

Synthesis of dinitriles of azelanic and sebastic acids. Khim.
prom. no. 4:273-275 Ap '64. (MIRA 17:7)

YAKUSHKIN, M.I.; NICHUGOVSKAYA, K.M.

Synthesis of higher secondary N-benzyl-n-alkylamines. Khim.
i tekh. topl. i masel 9 no.12:24-27 D '64. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimi-
cheskikh protsessov.

YAKUSHKIN, M.I.; BOCHAROVA, Ye.M.

Ammonolysis of the technical fractions of C₇ - C₉ and C₁₀-C₁₆
fatty acids to nitriles. Khim. prom. 41 no.8:576-577 Ag '65.
(MIRA 18:9)

YAKUSHKIN, S.V., inzh.

Outlining horizontal bulkheads and marking off transverse frames
in measuring sections. Sudostroenie 24 no. 6:54-56 Je '58.

(MIRA 11:8)

(Shipbuilding)

YAKUSHKIN, S. V.

Using the sliding thread method in hull assembly operations. Sudc.-
Stroenie 26 no.8:61-62 Ag '60. (MIRA 13:10)
(Hulls (Naval architecture))

YARUSHKIN S.V., inzh.

Use of aluminum-magnesium alloys in shipbuilding. Sudostroenie 28
no.11:56 N '62.
(Shipbuilding materials) (Aluminum-magnesium alloys)
(NIRA 15:12)

YAKUSHKIN, S.V., inzh.

Pin welding for packs of waterproofing to ship structures of
aluminum-magnesium alloys. Sudostroenie 29 no.3:54 Mr '63.
(MIRA 16:4)
(Waterproofing)

YAKUSHKIN, S.V., inzh.

Esthetics and efficiency of individual hull structures of a
fishing trawler. Sudostroenie 30 no.10:17-19 O '64.

(MTRA 17:12)

YAKUSHKIN, T.

Yakushkin, T. "Growth" (On the chairman of the 13th October collective farm, N. T. Klyuyev, Zub-Polyanskiy Rayon, Gattina), Lit. Pordoviya, No. 2, 1949, p. 27-31.

Sc: U-3261, 10 April 53, (Letopis' Zhurnal 'nykh Statey, No. 12, 1949).

YAKUSHKIN, T., red.; BURTYNSKIY, A., red.; POPOVA, M., tekhn.red.

[Economy of Mordovia; a statistical manual] Narodnoe khoziaistvo
Mordovskoi ASSR: statisticheskii sbornik. Saransk, Mordovskoe
knizhnoe izd-vo, 1958. 142 p. (MIRA 11:6)

1. Mordovskaya A.S.S.R. Statisticheskoye upravleniye.
(Mordovia--Statistics)

SANAYEV, Ivan Ivanovich, deputat Verkhovnogo Soveta Mordovskoy ASSR;
YAKUSHKIN, T., red.; CHIZHIKOVA, V., tekhn.red.

[Striving for technical progress] V bor'be za tekhnicheskii
progress. Saransk, Mordovskoe knizhnoe izd-vo, 1960. 79 p.
(MIRA 14:2)

1. Pervyy sekretar' Ardatovskogo raykoma Kommunisticheskoy
partii Sovetskogo Soyuza (for Sanayev).
(Mordovia--Farm mechanization)

YAKUSHKIN, V.

Model submarine under water. Voen. znan. 37 no.8:26 Ag '61.
(MIRA 14:?)
(Ship models--Testing)

YAKUSHKIN, V. V.

USSR/Engineering - Welding, Equipment

Jan 52

"Standardization of the Welding Tractors of
TsNIITMASH," I.L. Brinberg, Cand Tech Sci, V.P.
Yakushkin, Engr, Laureates of Stalin Prize

"Avtogen Delo" No 1, pp 16-20

Discusses gradual development and improvement of 2
types of welding units: heavy- and light-duty uni-
versal welding tractors UT-1250 and UT-2000 M.
Gives tech characteristics of latest models accepted
as std equipment. Each model permits adjustment for
variety of operations in field of automatic welding
under flux.

212T15

YAKUSHKIN, V.P.

1. BRINBERG, I.L.; RYBALKO, P.G.; KROBASTOV, M.F.; YAKUSHKIN, V.P.
2. USSR (600)
4. Electric Welding
7. Automatic electric arc welding of pipes with a spiral weld, I.L. Brinberg, Engs. P.G. Rybalko, M.F. Krrobastov, V.P. Yakushkin, Avtob.delo 24 no. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

YAKUSHKIN, V.P.

BRINBERG, I.L., kandidat tekhnicheskikh nauk; YAKUSHKIN, V.P., in-hener.

New general-purpose UT-2000M welding machine. [Trudy] TSNIITMASH 60:72-91
'53.
(MIRA 6:11)
(Electric welding)

YAKUSHKIN, V.S., polkovnik, kand.istoricheskikh nauk

V.I.Lvmin on vigilance. Vest. protivovozd.obor. no.4:8-11
Ap '61. (MIRA 14:7)
(Subversive activities)

IVANOV, Yu.S.; YAKUSHKIN, V.Ye.

Numbering frames of stereoscopic photographs of a Wilson chamber.
Prib. i tekhn. eksp. no.3:146 My-Jo '60. (MIRA 14:10)

1. Fizicheskiy institut AN SSSR.
(Photography, Particle track)
(Numbering machines)

YAKUSHKIN, Yakov Semenovich, kand. ekon. nauk; YUZBASHEV, V.G.,
red.; ATROSHCHENKO, L.Ye., tekhn. red.

[Labor and social wealth] Trud i obshchestvennoe bogatstvo.
Moskva, Izd-vo "Znanie," 1963. 46 p. (Novos v zhizni, na-
uke, tekhnike. III Seriya: Ekonomika, no.14) (MIRA 16:11)
(Labor and laboring classes) (Wealth)

YAKUSHKIN, YE. A., CAND MED SCI, "REMOTE AFTER-EFFECTS OF
INJURIES TO ACCESSORY SINUSES OF THE NOSE." MINSK, 1961.
(MINSK STATE MED INST). (KL, 3-61, 237).

489

YAKUSHKIN, Ye.A.

Streptomycin therapy of respiratory diffuse scleroma. Vest. otorinolar.,
Moskva 15 no.2:91-92 Mar-Apr 1953. (CIML 24:3)

1. Of the Department for Diseases of the Ear, Throat, and Nose (Head --
Prof. N. N. Usol'tsev), Smolensk Medical Institute.

YAKUSHKIN, Ye.A.

Late complications in cases of unremoved foreign bodies of the nose
and its sinuses. Vest.oto-rin. 18 no.5:49-53 S-0 '56. (MLRA 9:11)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - dotsent G.M.Starikov,
nauchnyy rukovoditel' - prof. N.N.Usov'tsev) Smolenskogo meditsinskogo
instituta.

(NOSE, foreign bodies
compl. of unremoved for bodies)
(PARANASAL SINUSES, for, bodies
same)

YAKUSHKINA, A.I.

Effect of ascarid invasion on the vitamin C content in human milk.
Trudy SMT 16:267-270 '63. (MIRA 12:1)

Effect of adipinat-piperazine (piperaskat) on the vitamin C content
in the organism. Ibid. 271-274

1. Iz kafedry infektsionnykh bolezney (zav. - dotsent G.N.Rozanova)
Smolenskogo gosudarstvennogo meditsinskogo instituta.

Orig Pub : Vestn. AN KazSSR, 1956, No 9, 79-84

~~APPROVED FOR RELEASE: 09/01/2001~~ CIA-RDP86-00513R001962020011-9
A fine-wool sheep has been developed at the Kazalinsk sovkhоз of the Kazakh SSR. The initial stock used consisted of hybrids of the I and II generation obtained by crossing the Kazakh fat-rumped sheep with rams of the New-Caucasian, Rambouillet and Precoce breeds. The Aral fine-wool sheep of the wool-meat type are characterized by satisfactory earliness. The ewes at the age of 3½ years and over have an average weight of 55.3 kg., and the yearling ewe lambs - 36.2 kg. The average fecundity of ewes is 125%. The wool yield in breeding rams is 9.3 kg., and in ewes - 4.3 kg. The wool is fine, smooth, long-stapled, and of a worsted class.

Card 1/1

SHOSTAKOVSKIY, M.F.; KUL'BOVSKAYA, N.K.; GRACHEVA, Ye.P.; LABA, V.I.;
YAKUSHINA, L.M.

Synthesis and conversions of substituted vinyl ethers. Part 12:
Vinylation of alkyl thiols by tert-butylacetylene. Zhur. ob. khim.
32 no. 3:709-714 Mr '62.
(MIRA 15:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Thiols) (Hexyne)

YAKUSHKINA, N.I., kandidat biologicheskikh nauk.

Effect of growth-promoting substances. Nauka i zhizn' no.8;
9-10 Ag '47. (MLRA 9:5)
(Growth-promoting substances)

CA

RECORDED AND INDEXED BY [unclear]

The growth substance in pollen. N. I. Yakushkina.
Doklady Akad. Nauk S.S.R., **56**, 519-522 (1947); *Chem. Zentr.* 1947, **1**, 1213-15. -- The active principle was extd. from 300 g. of pollen from hazelnut shrub and pine using, the method of Thimann (cf. C.I. **28**, 7298) with some modifications. The material was extd. 4 times with CHCl_3 and 0.1 N HCl; the layers were sepd., the CHCl_3 was evapd., and the residue dissolved in water, using 7 cc. per g. of pollen. The concn. of the soln. was measured by the increase in wt. of pea stems placed in it. Heteroxin was tested in the same manner. The results agreed with those of Thimann and indicated that 1 g. of the hazelnut pollen had about the same effect as 0.05 g. of a heteroxin prepn. Ext's. prep'd. by direct extn. with water without CHCl_3 had little effect. The ext's. were then mixed with laurolin (cf. J. Mitchell and M. Whitehead, C.I. **35**, 14009) and tested by measuring directly the growth of the first internode of 7-day bean sprouts. When so tested, heteroxin was effective only during the first hours (up to 67 hrs.). Larger amts. had a neg. effect. It produced no increase in the dry wt. and only a slight increase (from 5.3 to 6.8) in the ash content. Pollen ext., on the other hand, produced marked increases in both the dry wt. and the ash content. Therefore, the effect of heteroxin is not comparable to that of pollen.

M. G. Moore

11d

AFB-SEA METALLURGICAL LITERATURE CLASSIFICATION

SERIAL 110002244

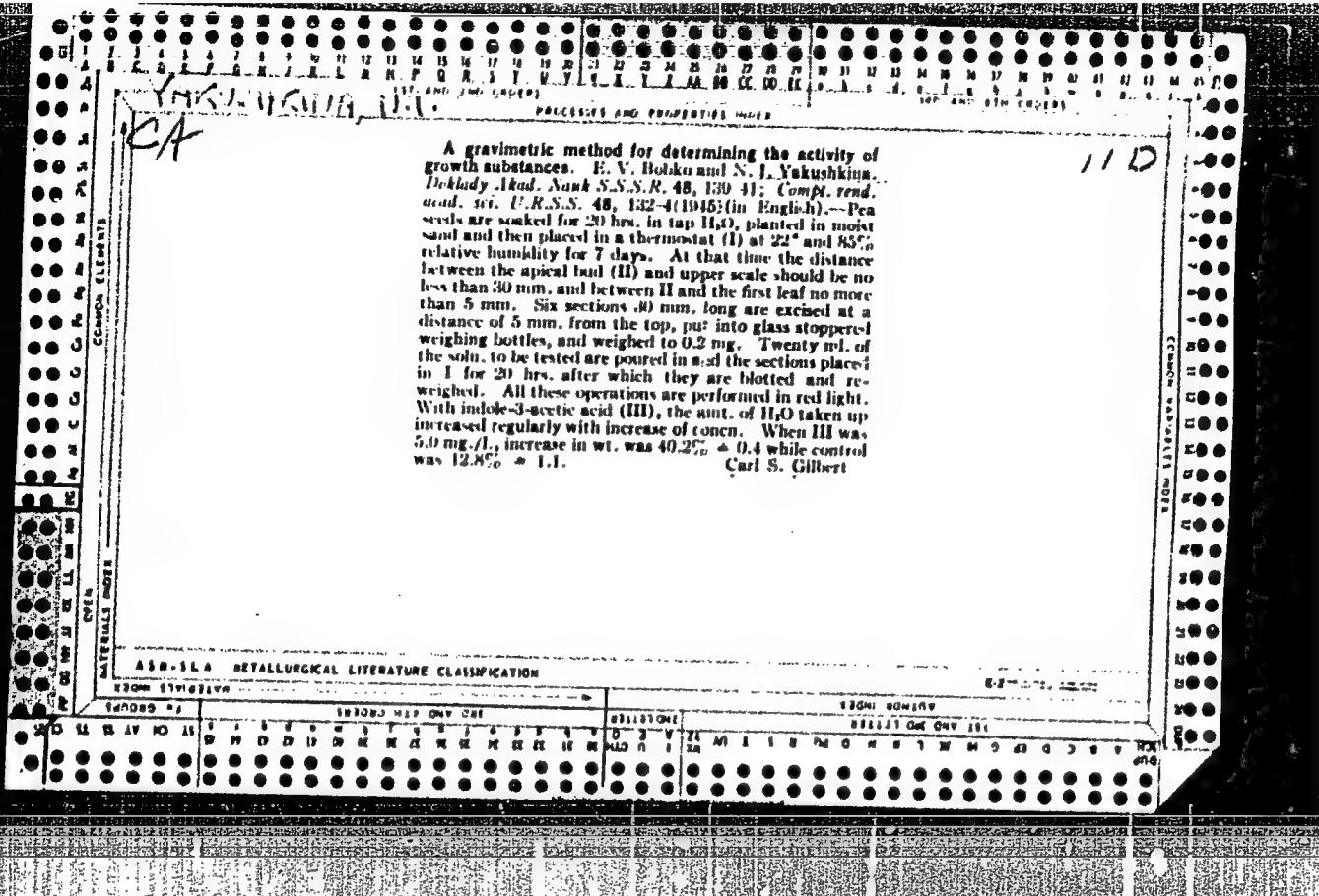
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100000 MIL. DAY ONE



YAKUSHKINA, N.I.

*Effect of growth promoting substances on cell intake of water and salts. Trudy Inst.fiziol.rast. 6 no.1:193-200 '48. (MLRA 9:9)
(Plants--Absorption of water) (Plants--Assimilation) (Growth promoting substances)*

CA

II D

Physiological and biochemical changes in plants under the influence of treatment with growth substances. N. I. Yakushkina. Doklady Akad. Nauk S. S. S. R. 61, 1009-12 (1948). Spraying tomato plants with 10 mg./l. 2,4-D solns. (only the flower parts were sprayed and examined) leads to rapid growth within 48 hrs. The sugar level rises by over 100% in 18 days. N-level drops slightly, as does the total ash. The respiration rate (CO_2 evolution) is sharply increased and the increase is progressive with time, reaching 100-115% excess within 5-8 days, with a drop to 60% excess after 18 days. Catalase activity similarly rises while peroxidase activity drops by 50% or more. The reverse effects take place in the leaf matter.

G. M. Kosolapoff

ASML 1A METALLURGICAL LITERATURE CLASSIFICATION

YAKUSHKINA, N.I.

CA

ACA

Effect of growth stimulators on distribution of nutrients
in plants. N. I. Yakushkina (Timiryazev Agr. Akad.,
Moscow). *Doklady Akad. Nauk S.S.R.* 69, 101-4
(1949); cf. C.A. 43, 3890a.—Spraying of tomato plants
with 10 mg./l. 2,4-D solns. results in 15 days in lowering
N and increasing P in the leaves, an increase of ash and
P in fruit, and a moderate increase of N in the latter.
Hence, such spraying does not change in total effect the
mineral intake of the plant. As judged by photosynthetic
activity, carbohydrate metabolism is not essentially
changed by spraying. Thus the hormone's effect is that
of redistribution of nutrients only; this is especially true
when only a particular section of the plant is sprayed.
G. M. Kosolapoff

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9

YAKUSHKINA, N.I.; KRAVTSOVA, B.Ye.

The effect of continuous illumination on growth and fruit formation in the
tomato. Doklady Akad. Nauk S.S.R. 91, 425-8 '53.
(CA 47 no.21:11361 '53) (MLRA 6:6)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9

YAKUSHKINA, N. I.

Chem Abs

U-4 P 25 Jan 54

Botany

✓ Effect of temperature on growth and movement of substances in tomatoes. N. I. Yakushkina, B. E. Kravtsova, and G. A. Novoselova, *Doklady Akad. Nauk S.S.R.* 91, 900-72(1953).—Expts. were made with tomato plants exposed to 23°, 23° in daytime and 16° at night, and 23° in daytime and 8° at night. Low night temp. aids growth of side-runners and total root system. Night temp. of 15° gave the best crop yield, 50% higher than that from const. 23° exposure. Lower night temp. failed to change the photosynthetic activity, but aided the transport of carbohydrates from the leaves and the degradation of starch into sugars.

O. M. Kosolapoff

(3)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9"

YAKUSHKINA, N.I.; ERDELI, G.S.

*Physiological changes in green cuttings during rooting. Biul.
Glav.bot.sada no.25:94-100 '56.*
(MIRA 10:1)

1. Glavnnyy botanicheskiy sad Akademii nauk SSSR, Voronezhskiy
gosudarstvennyy universitet,
(Plant cuttings)

YAKUSHKINA, N.I.

Effect of irrigation on changes in certain physiological processes
of plants. Biul.Glav.bot.sada no.26:6/-75 '56. (MLRA 10:2)

1. Glavnnyy botanicheskiy sad Akademii nauk SSSR i Voronezskiy gosu-
darstvennyy universitet.
(Irrigation) (Botany--Physiology)

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962020011-9

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962020011-9"

YAKUSHKINA, N. I., kandidat biologicheskikh nauk.; KRAVTSOVA, B. Ye.

Effect of growth stimulants on the yield and quality of some vegetable crops. Dokl. Akad. sel'khoz. 22 no. 2:15-17 '57. (MLRA 10:5)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya imeni K. A. Timiryazeva. Predstavlena akademikom I. Ye. Glushchenko. (Growth promoting substances) (Vegetable gardening)

YAKUSHKINA, N. I., Doc Biol Sci -- (diss) "Physiological
Nature of the Effect of Auxins and the Movement of
Organic Matters in a Plant." Substances
Mos, 1958. 41 pp (Acad
Sci USSR. Inst of the Physiology of Plants im K. A.
Timiryazev), 110 copies. ~~A list of the authors works is~~
~~at the end of the text (13 titles), (KL 40-58, 113)~~

YAKUSHKINA, N.I.

Effect of growth regulators on the utilization of assimilates from leaves at different canopy levels. Fiziol. rast. 9 no.1:111-114 '62.
(MIRA 15:3)

1. Department of Plant Physiology Voronezh State University.
(Growth promoting substances) (Plants--Assimilation)

ACC NR: AP6034128

(A,N)

SOURCE CODE: UR/0325/66/000/004/0174/0180

AUTHOR: Yakushkina, N. I.; Artemonov, V. I.

ORG: None

TITLE: Certain unique effects of gibberellins on plants

SOURCE: Nauchnyye doklady vysshyey shkoly. Biologicheskiye nauk,
no. 4, 1966, 174-180TOPIC TAGS: ~~biology~~, plant growth, plant ^{metabolism} ~~metabolism~~, gibberellin,
agriculture, ~~nutrobiology~~

ABSTRACT: Among the metabolic effects of gibberellins on plants the most interesting are their growth promoting activities and aspects of their reactions with physiologically active substances, particularly vitamins. The lowering of riboflavin content in rice plants as an effect of gibberellins has been observed. In this experiment, the effect of gibberellin on riboflavin (vitamin B₂) synthesis was studied. Experiments with rice, sugar beets, and peas confirmed data in previously published reports. Riboflavin content was lowered and phosphorus content increased, although not as much as when riboflavin and

Card 1/2

ACC NR: AP6034128

ACC NR: AP6034128

gibberellin were given together. Growth was promoted best by a gibberellin-riboflavin preparation. Orig. art. has: 3 tables and 1 figure.
[W.A. 50]

SUB CODE: 06/ SUBM DATE: 22Nov65/ ORIG REF: 025/ OTH REF: 001

Card 2/2

ACC NR: AP6034128

(1,N)

SOURCE CODE: UR/0325/66/000/004/0174/0180

AUTHOR: Yakushkina, N. I.; Artamonov, V. I.

ORG: none

TITLE: Certain unique effects of gibberellins on plants

SOURCE: Nauchnyye doklady vysshykh shkoly. Biologicheskiye nauk,
no. 4, 1966, 174-180TOPIC TAGS: ~~biology~~, plant growth, plant ^{metabolism} ~~regulation~~, gibberellin, agriculture, ~~agriculture effect~~ABSTRACT: Among the metabolic effects of gibberellins on plants the most interesting are their growth promoting activities and aspects of their reactions with physiologically active substances, particularly vitamins. The lowering of riboflavin content in rice plants as an effect of gibberellin has been observed. In this experiment, the effect of gibberellin on riboflavin (vitamin B₂) synthesis was studied. Experiments with rice, sugar beets, and peas confirmed data in previously published reports. Riboflavin content was lowered and phosphorus content increased, although not as much as when riboflavin and

Card 1/2

ACC NR: AP6034128

gibberellin were given together. Growth was promoted best by a gibberellin-riboflavin preparation. Orig. art. has: 3 tables and 1 figure.
[W.A. 50]

SUB CODE: 06/ SUBM DATE: 22Nov65/ ORIG REF: 023/ OTM REF: 001

Card 2/2

TIBURSKAYA, N.A.; ZHUKOVA, T.A.; BAGRAMYAN, M.G.; YAKUSHKINA, N.S.; ZABEZHANSKIY,
V.P.; IL'YASOV, S.I.

Case of many years lasting carrier state of quartan malaria parasites.
Med. paraz. i paraz. bol. 34 no.1:81-83 Ja-F '65.

(MIRA 18:8)

1. Institut meditsinskoy parazitologii i tropicheskoy meditsiny im.
Ye.I.Martsincvskogo Ministerstva zdravookhraneniya SSSR, Moskva,
Institut meditsinskoy parazitologii i tropicheskoy meditsiny im.
S.M.Kirova Ministerstva zdravookhraneniya Azerbaydzhanskoy SSR,
Kafedra meditsinskoy parazitologii TSentral'nogo instituta usover-
shenstvovaniya vrachey i Psikhonevrologicheskaya bol'niitsa Nr.3,
Baku.

YAKUSHKINA, O.V., doktor sel'skokhozyaystvennykh nauk.

Regionally adapted tomato varieties in supply zones of the canning industry. Trudy VNIIKOP no.5:64-80 '55. (MIRA 9:11)
(Tomatoes--Varieties)

YAKUSHKINA, O.V., doktor sel'skokhozyaystvennykh nauk.

~~Effect of growing conditions on changes in the characteristics of
tomato varieties. Trudy VNIIKOP no.5:113-128 '55. (MLRA 9:11)~~
(Tomatoes--Varieties)

YAKUSHKINA, O.V.

SHEYBE, A. [Scheibe, A.], prof., red.; YAKUSHKINA, O.V., doktor sel'sko-khozyaystvennykh nauk, [translator]; LASTOVKA, Ye.V., kand.sel'sko-khozyaystvennykh nauk, red.; PEPPER, M.D., red.; KLIMENKO, S.V., tekhn.red.

[Field-crop production. Translated from the German] Rastenievodstvo.
Red. E.V.Lastovka. Moskva, Izd-vo inostr. lit-ry, 1958. 557 p.
(Field crops) (MIRA 11:5)

ACC NR: AP7002179

SOURCE CODE: UR/0146/66/009/006/0094/0096

AUTHOR: Kramfus, I.R.; Yakushina, S.B.

ORG: Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Debugging program for a training computer

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 6, 1966, 94-96

TOPIC TAGS: computer program, training equipment

ABSTRACT:

A debugging program is described which may be used by any three-address computer with automatic address modification. The program, together with the constants, occupies 350 storage locations in the main memory unit. The flow chart for this program contains provisions for automatic code translation for printing operations and arithmetic operation results in decimal code, and logical operation results in octal code. The program execution speed is limited by the speed of the printing unit. On the average 5-6 words are printed for each executed instruction. UDC: 681.14 [WA-81]

SUB CODE: 09/ SUBM DATE: 11Feb66/ ORIG REF: 004

ATD PRESS: 5113

Card 1/1

UDC: none

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9

I-32652-65

EMT(m)/EPF(c)/EMP(1) REC'D/PR-44 RPT
1/0079/65/035/002/0330/0333

13-1

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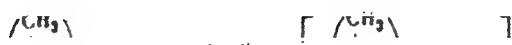
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LA-2-A

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9"

by the reaction:



branched ones. Orig. art. has 3 formulae.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962020011-9"

SUBMITTED: 29Apr63

ENCL: 00

SUB CODE: "C

YAKUSHKINA, S. E.

USSR/Chemistry

Card : 1/1

Authors : Kabachnik, M. I., Memb. Corres. of Acad. of Sc. USSR., Yakushkina, S. E.
and Kislyakova, N. V.

Title : Theory of tautomeric equilibrium. Effect of pressure on tautomeric equilibrium of acetoacetic ester

Periodical : Dokl. AN SSSR, 96, Ed. 6, 1169 - 1172, June 1954

Abstract : Experiments show that the trans-enol form is the strongest acid of the known three forms of acetoacetic ester. This acid possesses the highest value of the thermodynamic acidity constant K_a . Its equilibrium content in any given solvent is low. Its content is much higher in leveling solvents (water, methyl alcohol) and lower in differentiating solvents (acetone, chloroform, ethyl alcohol, etc.) It responds to solvation with hydroxyl containing solvents much better than any other form. A pressure increase displaces the equilibrium in these solvents toward the trans-enol form which is well noticeable in leveling solvents (water, CH_3OH). Ten references. Table, graph.

Institution : Acad. of Sc. USSR, Institute of Element. Organic Compounds

Submitted : March 17, 1954

88538

S/190/60/002/010/010/026
B004/B054

5-3831

AUTHORS: Andrianov, K. A. and Yakushkina, S. Ya.TITLE: Polymerization of Octamethyl Cyclotetrasiloxane in the
Presence of Tin ChloridePERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10,
pp. 1508-1511

TEXT: The authors studied the polymerization of octamethyl cyclotetrasiloxane in the presence of SnCl_4 (0.02 and 0.058 moles) as a catalyst at 120, 134, and 152°C . They found that the ring is cleaved above 100°C , and rubber-like linear polymers with a molecular weight of about 350,000 are formed (Table). The polymer with a molecular weight of 350,000 had the same vitrification temperature as polydimethyl siloxane rubber with the same molecular weight. Fig. 1 shows the yields in polymers, Fig. 2 the relative viscosity as a function of the reaction time. The relative viscosity rises with increasing addition of SnCl_4 . Fig. 3 shows that the viscosity also rises with increasing polymerization temperature. The

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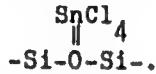
Card 1/2

Polymerization of Octamethyl Cyclotetrasiloxane
in the Presence of Tin Chloride

88538

S/190/60/002/010/010/026
B004/B054

authors assume that an active intermediate complex is formed in the polymerization by means of tin tetrachloride:



There are 3 figures, 1 table, and 10 references: 6 Soviet, 3 US, and 1 Japanese.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
(Institute of Elemental-organic Compounds of the AS USSR)

SUBMITTED: April 28, 1960

Card 2/2

AUTHORS:

Yakushkina, S. Ye., Kislyakova, N. V. 507/62-58-9-16/26

TITLE:

Addition of the Carbonyl Radical to Para-Dichlorobenzene
(Karbonilirovaniye paradikhlorbenzola)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1958, Nr 9, pp 1119 - 1122 (USSR)

ABSTRACT:

The reactions between carbon monoxide compounds and aromatic and aliphatic halogen hydrocarbons have been studied only to a small extent. Apart from a few papers (Refs 1-4) Iomamoto and Sato (Ref 5) in 1954 investigated this reaction of carbon monoxide with various aromatic halogen hydrocarbons. The authors of the present paper attempted by systematic investigation of the reaction between carbon monoxide and dichlorobenzene to determine the dependence of the direction of the reaction upon whatever factors might be affecting it. Studying the reaction between para-dichlorobenzene and carbon monoxide the authors found that in the presence of a nickel cata-

Card 1/2

Addition of the Carbonyl Radical to Para-Dichlorobenzene SOV/62- 58-9-16/26

lyst terephthalic acid and para-chlorobenzoic acid can be synthesized. Under optimal conditions the terephthalic acid was obtained in 25% yield, while the para-chlorobenzoic acid was obtained in 80% yield. It is assumed that the reaction between para-dichlorobenzene and carbon monoxide takes place step-wise. The para-chlorobenzoic acid is therefore an intermediate product in the production of terephthalic acid. There are 1 table and 6 references, 1 of which is Soviet.

ASSOCIATION: Institut elemtoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds, AS USSR).

SUBMITTED: February 11, 1957

Card 2/2

ANDRIANOV, K.A.; YAKUSHKINA, S.Ye.

Polymerization of mixed aryl(alkyl)-cyclotetrasiloxanes. Vysokom
soed. 1 no.4-613-618 Ap '59. (MIRA 12:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Siloxanes) (Polymerization)

28186

15-8170

S/190/61/003/010/016/019
B124/B110

AUTHORS: Andrianov, K. A., Yakushkina, S. Ye.

TITLE: Polymerization of mixed cyclotetrasiloxanes

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 10, 1961,
1554-1560

TEXT: The authors synthesized cyclic compounds in which three oxygen atoms are bound to a silicon atom, and studied their polymerization in the presence of acid and basic catalysts. For this purpose, they synthesized bis(hexamethyl-diphenyl-tetracyclosiloxane) oxide (I) and heptamethyl(trimethyl-siloxy)cyclotetrasiloxane (II), namely (I) by cohydrolysis of dimethyl dichloro silane and phenyl trichloro silane by water in acid medium at 25-30°C, 2 hr, and (II) by cohydrolysis of methyl(trimethyl-siloxy)dichloro silane and dimethyl dichloro silane under the same conditions. The compounds were isolated by fractional distillation, and identified by their elementary composition, infrared spectra, and molecular weights. The infrared spectra of (I) showed absorption bands for Si-C₆H₅

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28186

S/190/61/003/010/016/019
B124/B110

Polymerization of mixed ...

at 700, 725, 1425, and 3046 cm^{-1} , and for $\text{Si}-\text{CH}_3$ at 805, 1260, 1410, and 2900 cm^{-1} , as well as, finally, for the cycle $\begin{array}{c} \text{Si} \\ | \\ \text{O} \\ | \\ \text{Si} - \text{O} - \text{Si} \end{array}$ at 1083 cm^{-1} .

Polymerization of the compounds was studied in the presence of KOH and H_2SO_4 ; at the same time, the following compounds synthesized earlier

(Ref. 1: Vysokomolek. soyed. 1, 613, 1959) by the authors were polymerized for comparing the rates of polymerization: heptamethyl phenyl cyclotetrasiloxane (III), octamethyl cyclo-tetrasiloxane (IV), heptamethyl chloromethyl cyclotetrasiloxane (V), and heptamethyl chlorophenyl cyclotetrasiloxane (VI). Table 1 gives results of polymerization of some of the compounds mentioned in the presence of 0.5% KOH at 130°C . Table 2 gives data on the polymerization of some of the compounds mentioned in the presence of H_2SO_4 at 96°C . In (I), the stronger tendency for polymerization in the presence of bases is probably due to the presence of the group

Card 2/8

28186

S/90/003/010/016/019

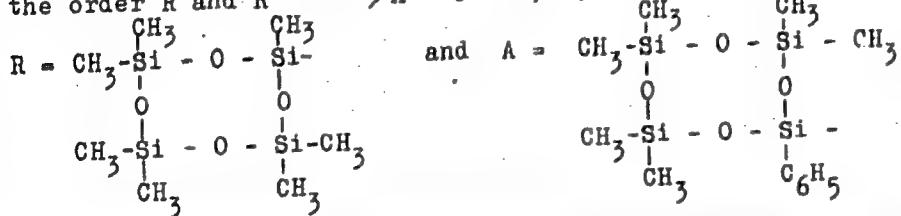
B124/B110

Polymerization of mixed ...

$\begin{array}{c} \delta+ \\ | \\ -O-Si-O-Si-O- \\ | \quad | \\ \delta+ \quad O- \\ | \\ O- \end{array}$. This group increases the electropositive character of Si. In the polymerization of (II) (and the analogous triethyl-siloxy compound), there is a trimethyl-silyl (or triethyl-silyl) group (representing a steric hindrance) on the silicon atom to which three oxygen atoms are bound; the stoichiometric factor is of importance for the polymerizability. In conclusion, it may be stated that the rate of polymerization in the presence of KOH decreases in the order

$A - O - A > R^{C_6H_4Cl} > R^{C_6H_5Cl} > R^{-O-Si(CH_3)_3}$, in the presence of H_2SO_4 in

the order R and $R^{C_6H_4Cl} > A - O - A > R$, where



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28186

S/190/61/003/010/016/019
B124/B110

Polymerization of mixed ...

There are 2 figures, 2 tables, and 6 Soviet references

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
(Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: December 1, 1960

Table 1. Polymerization in the presence of a base (duration 3 hr,
temperature 130°C, 0.5% KOH).

Legend: (A) Compound, (B) formula, (C) conversion, %, (D) shrinkage, %.
(E) III, (F) VI, (G) II, (H) I, (J) a gel forms after 30 min heating.

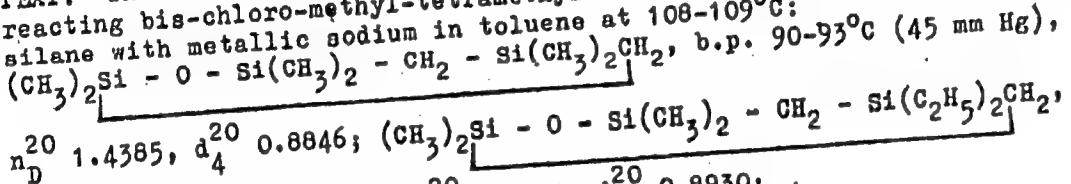
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Card 4/8

S/062/62/000/008/008/016
B117/B180

AUTHORS: Andrianov, K. A., and Yakushkina, S. Ye.
TITLE: Synthesis and polymerization of some organocyclosilyl-di-methylene siloxanes
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1396-1400

TEXT: The following six-membered cyclic compounds were synthesized by reacting bis-chloro-methyl-tetramethyl siloxane and aryl-(alkyl)-dichloro silane with metallic sodium in toluene at 108-109°C:



n_D^{20} 1.4385, d_4^{20} 0.8846; $(\text{CH}_3)_2\text{Si} - \text{O} - \text{Si}(\text{CH}_3)_2 - \text{CH}_2 - \text{Si}(\text{C}_2\text{H}_5)_2\text{CH}_2,$

b.p. 97-100°C (15 mm Hg), n_D^{20} 1.4524, d_4^{20} 0.8930;

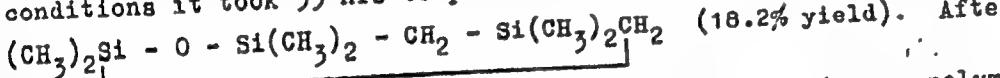
$(\text{CH}_3)_2\text{Si} - \text{O} - \text{Si}(\text{CH}_3)_2 - \text{CH}_2 - \text{Si}(\text{CH}_3)\text{C}_6\text{H}_5\text{CH}_2, \text{ b.p. } 134-138^\circ\text{C} \text{ (8 mm Hg)},$

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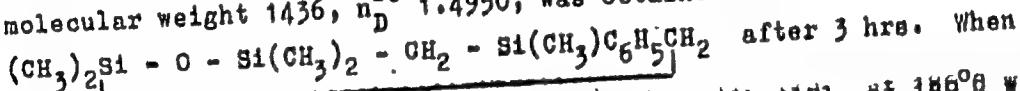
S/062/62/000/008/008/016
B117/B180

Synthesis and polymerization ...

n_D^{20} 1.5112, d_4^{20} 0.9607. In the presence of caustic soda and aluminum chloride, these compounds were found to polymerize less readily at 120°C than six and eight-membered dimethyl cyclosilanes. A polymer of molecular weight 169,800 was obtained from hexamethyl-cyclo trisiloxane after 4 hrs in the presence of KOH (46.3% yield). Under identical conditions it took 33 hrs to produce a viscous polymer, n_D^{20} 1.4400, from



substituting a phenyl group for the methyl group, a viscous polymer (6%), molecular weight 1436, n_D^{20} 1.4950, was obtained from



$(\text{CH}_3)_2\text{Si} - \text{O} - \text{Si}(\text{CH}_3)_2 - \text{CH}_2 = \text{Si}(\text{CH}_3)_2\text{CH}_2$ with AlEt_3 at 120°C was heated for 20 hrs, ~70% of the monomer was recovered unchanged and ~30% remained as undistilled residue with n_D^{20} 1.4420. There are 3 figures and 1 table.

Card 2/3

Synthesis and polymerization ...

8/062/62/000/008/008/016
B117/B180

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk
SSSR (Institute of Elemental Organic Compounds of the
Academy of Sciences USSR)

SUBMITTED: February 14, 1962

Card 3/3

ANDRIANOV, K.A.; YAKUSHKINA, S.Ye.

Synthesis and polymerization of some organocyclosilyldimethylene-siloxanes. Izv.AN SSSR.Otd.khim.nauk no.8:1396-1400 Ag '62.
(MIRA 15:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Silicon organic compounds) (Polymerization)

L 24488-66 EWT(m)/EWP(j)/T IJP(c) RM
ACC NR: AP6006987 (A) SOURCE CODE: UR/0190/66/008/002/0352/0356

AUTHORS: Andrianov, K. A.; Yakushkina, S. Ye.; Karaseva, T. M.; Pertsova, N. V.

ORG: Institute of Elementoorganic Compounds, AN SSSR (Institut elemento-
organicheskikh soyedineniy AN SSSR)

34
B

TITLE: Polymerization of methylphenylcyclosiloxanes 7

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 352-356

TOPIC TAGS: polymerization, linear polymer, polysiloxane, polymerization rate,
solid viscosity

ABSTRACT: Polymerization of eight-membered cyclosiloxanes with varying numbers of methyl and phenyl groups was investigated, and the relationship between viscosity, molecular weight, and the structure of the polymers was studied. Reaction performed at 150°C in the presence of 0.5% KOH yielded linear polymers of high molecular weight. It was established that the number of phenyl groups in the ring affects the polymerization rate, as can be seen in Fig. 1. Apparently, in the process of polymerization of methylphenylcyclotetrasiloxanes and the fission of the Si-O bond, phenyl radicals are split off. The rate of this process decreases with an

UDC: 66.095.26+678.84

Card 1/2

L-24488-66
ACC NR: AP6006987

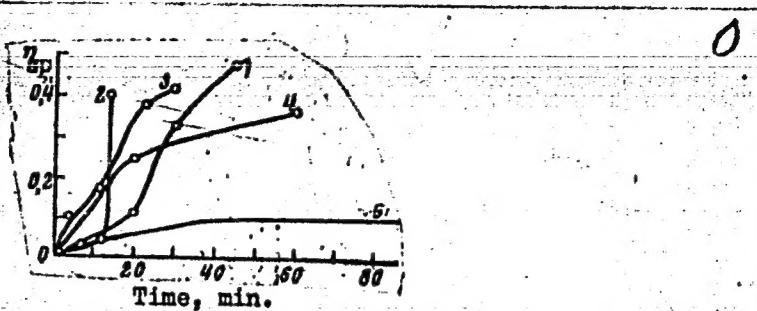


Fig. 1. Specific viscosity as a function of polymerization time: 1 - octamethylcyclotetrasiloxane, 2 - heptamethylphenylcyclotetrasiloxane, 3 - hexamethyldiphenylcyclotetrasiloxane, 4 - pentamethyltriphenylcyclotetrasiloxane, 5 - tetramethyltetraphenylcyclotetrasiloxane.

increased number of phenyl groups. For polymers having 48% of phenyl groups, the relationship between molecular weight and specific viscosity $[\eta] = 1.24 \times 10^{-4} M^{0.62}$. Orig. art. has: 2 tables, 4 figures, and 3 formulas.

SUB CODE: 07/ SUBM DATE: 24Mar65/ ORIG REF: 004/ OTH REF: 002

Card 2/2 PB

L 41226-66
ACC NR: AP6023432

EWT(m)/T/EWP(j) IJP(c)

RM

SOURCE CODE: UR/0190/66/008/007/1252/1256

AUTHOR: Andrianov, K. A.; Vardosanidze, Ts. N.; Nogaydeli, A. I.; Yakushkina, S. Ye.

ORG: Institute of Hetero-organic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

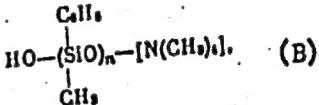
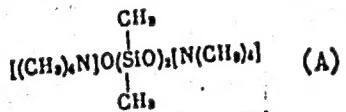
34
B

TITLE: Polymerization of methylphenylcyclosiloxanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1252-1256

TOPIC TAGS: siloxane, organosilicon compound, polymerization catalyst, catalytic polymerization

ABSTRACT: In a study of the polymerization of organocyclosiloxanes in reactions of anionic polymerization, the polymerization of tetramethyltetraphenylcyclotetrasiloxane (I) and trimethyltriphenylcyclotrisiloxane (II) in the presence of various catalytic systems was investigated. Special catalysts having the formulas

where $n = 8, 11, 15$, were synthesized. In the presence of (A), the polymerization of

UDC: 66.095.26+678.84

Card 1/2

L 41226-66

ACC NR: AP6023432

(I) is slow and reaches equilibrium without any appreciable increase in the viscosity of the system. The polymerization of isomers of (II) is also slow. The cis isomer of (III) was found to be more active than the trans isomer and (I) in the polymerization reaction. This is attributed to the greater accessibility of siloxane bonds to attack by a nucleophilic reagent, whereas in the trans isomer all the Si-O bonds are screened by phenyl groups. Orig. art. has: 1 figure and 1 table.

SUB CODE: 07/ SUBM DATE: 25Jun65/ ORIG REF: 002/ OTH REF: 003

Card 2/21111-
